2014

(6th Semester)

ZOOLOGY

Paper : ZL–X

(Developmental Biology)

Full Marks : 55

Time : 2 hours

(PART : B—DESCRIPTIVE)

(*Marks* : 35)

The figures in the margin indicate full marks for the questions

1. What is fertilization? Explain the mechanism of *in vivo* fertilization. 1+6=7

Or

Describe the different patterns of cleavage. 7

2. What is gastrulation? Explain the mechanism of gastrulation in amphibians. 1+6=7

Or

Describe the extraembryonic membranes in chick. 7

3. Explain the concept of organizer and induction. 7

Or

What are morphogenetic fields? Explain with one example. 2+5=7

4. Discuss the process of amphibian metamorphosis and their hormonal regulation. 4+3=7

Or

Write a note on regeneration in invertebrates. 7

5. Write a note on developmental defects. 7

Or

Write an account on transgenesis.

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2014

(6th Semester)

ZOOLOGY

Paper : ZL–X

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(PART : A—OBJECTIVE)

(*Marks* : 20)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks* : 5)

Put a Tick (✓) mark against the correct answer in the brackets provided : 1×5=5

1. Arrhenotokous refers to

(a) complete parthenogenesis ( )

(b) incomplete parthenogenesis ( )

(c) haploid parthenogenesis ( )

(d) diploid parthenogenesis ( )

2. The placenta of human is

(a) non-deciduate placenta ( )

(b) deciduate placenta ( )

(c) contra-deciduate placenta ( )

(d) None of the above ( )

3. The migration of small groups of independent cells separating from the surface layer into the blastocoel cavity is

(a) invagination ( )

(b) involution ( )

(c) ingression ( )

(d) None of the above ( )

4. During amphibian limb regeneration, some types of differentiated cells do 'dedifferentiate' and 'redifferentiate' in other types of cells. This is called

(a) metaplasia ( )

(b) blastema ( )

(c) regenerative field ( )

(d) None of the above ( )

5. Embryonic stem cells are functionally

(a) multipotent ( )

(b) totipotent ( )

(c) unipotent ( )

(d) None of the above ( )

SECTION—B

(Marks : 15)

Write short notes on the following in not more than 5 to 8 sentences each : 3×5=15

1. Telolecithal eggs

2. Fate maps

3. Delamination

3. Delamination

4. Ecdysone and its role

8. Phoxomelia

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